

REMARKS

The non-final Office Action of March 26, 2004 has been received and carefully reviewed. Accordingly, claim 1 has been canceled and new claims 2-11 have been added which are directed to methods of forming crystalline semiconductor islands on a substrate employing the application of direct and reflected laser light to the surfaces of the semiconductor island. Support for the subject matter of new claims 2-11 can be found at least in Figures 1, 4A-4D and 24A-24F, and in the specification at page 14, line 11, to page 17, line 26, as well as page 18, lines 5-9. In view of the amendments above and the following remarks, further consideration of this application is now requested.

With regard to the Examiner's objections to the specification, it is believed that with the above amendments to the specification, at page 1, each of those objections has been rendered moot and should now be withdrawn.

With regard the Examiner's rejection of claim 1, under the judicially established doctrine of obviousness-type double patenting, as being rendered obvious by the teachings of claim 16 of U.S. Patent 6,624,013, the Applicants respectfully traverse this rejection.

Specifically, with the cancellation of original claim 1 and the submission of new claims 2-11, this rejection is regarded as being rendered moot, since each of the newly presented independent claims 2 and 7 sets forth the features of:

irradiating a laser light toward the amorphous semiconductor island for forming a crystalline semiconductor island,

wherein one part of the laser light is irradiated on a first surface of the amorphous semiconductor island,

wherein another part of the laser light is transmitted through the substrate and reflected by a reflection plate and transmitted through the substrate again and irradiated on a second surface of the amorphous semiconductor island, and

wherein the second surface of the semiconductor island is on an opposite side of the first surface of the semiconductor island.

While claim 16 of the '013 patent sets forth the features of:

forming an amorphous semiconductor island over a first surface of the substrate;

introducing a catalytic element into the amorphous semiconductor island, the catalytic element being capable of promoting crystallization of the amorphous semiconductor island;

crystallizing the amorphous semiconductor island by a thermal treatment to form a crystalline semiconductor island,

annealing the crystalline semiconductor island using a laser light; ...

wherein the annealing step comprises:

irradiating the laser light from a side of a first surface of the substrate:

reflecting a part of the laser light by a reflection plate being located adjacent to a second surface of the substrate, the second surface being opposed to the first surface of the substrate; and

irradiating the reflected laser light to the amorphous semiconductor island from a side of the second surface of the substrate... (Emphasis added)

As can be seen from the above illustration, newly presented claims 2-11 perform the crystallization of the semiconductor island employing laser light; whereas claim 16 of the '013 patent performs crystallization employing a thermal treatment which is then followed by annealing with laser light.

With regard to claims 24 and 27 of the '013 patent, each of those claims specify the following general steps:

crystallizing the amorphous semiconductor island to form a crystalline semiconductor island;...

wherein the crystallizing step comprises:

irradiating a laser light from a side of a first surface of the substrate;

reflecting a part of the laser light by a reflection plate being located adjacent to a second surface of the substrate, the second surface being opposed to the first surface of the substrate; and

irradiating the reflected laser light to the amorphous semiconductor island from a side of the second surface of the substrate...

However, neither of the claims 24 and 27 recite the instantly claimed steps of transmitting another (second) part of the laser light through the substrate, reflecting the laser light from a reflection plate and then transmitting the laser light back through the substrate to expose the second surface of the semiconductor island, and, further

neither claim 24 or 27 of the '013 patent provide any suggestion or motivation for modifying the procedure recited by those claims to perform the specific exposure technique of the instant claims 2 and 7.

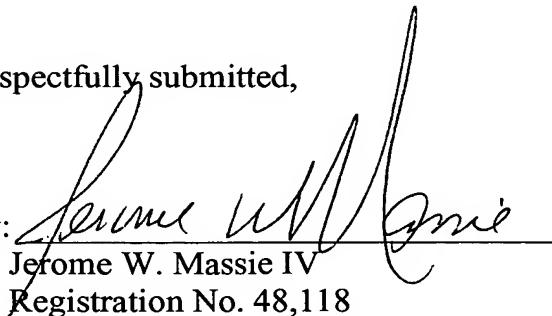
Therefore, since claim 16 of the '013 patent fails to teach or suggest each and every feature of the invention as presently claimed, the obviousness-type double patenting rejection of record is no longer appropriate and must now be withdrawn.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with Applicants' representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Lastly, it is noted that a separate Extension of Time Petition (two months) accompanies this response along with an authorization to charge the requisite extension of time fee to Deposit Account No. 19-2380 (740756-2645). However, should that petition become separated from this Amendment, then this Amendment should be construed as containing such a petition. Likewise, any overage or shortage in the required payment should be applied to Deposit Account No. 19-2380 (740756-2645).

Respectfully submitted,

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